We Claim:

1. A pair of oligonucleotide primers for specific amplification of the *hupB* gene of *Mycobacterium* species selected from the group consisting of Seq ID Nos. 1 and 2; Seq ID No. 3 and 4; Seq ID No. 4 and 5.

2. A method for differentiating *Mycobacterium* species based on target *hup B* gene encoding for histone like proteins comprising steps of:

   a) Obtaining DNA from culture or from clinical samples.

   b) Amplifying a part of the target gene encoding for histone like proteins such as *hup B* of *Mycobacterium* species using said DNA as a template in a polymerase chain reaction with a pair of oligonucleotide primers according to claim 1.

   c) Detecting said amplified fragment of the *hup B* gene for the presence of *M. tuberculosis* and *M. bovis* and to differentiate *Mycobacterium tuberculosis* from *Mycobacterium bovis* based on the size of the amplified fragment.

3. A method according to claim 2, said *Mycobacterium* species is selected from the group consisting of *M. tuberculosis* and *M. bovis*.

4. A method according to claim 2, wherein the pair of oligonucleotide primers comprises of Seq ID No. 1 and Seq ID No. 2.

5. A method according to claim 2, wherein the pair of oligonucleotide primers comprises of Seq ID No. 3 and Seq ID No. 2.

6. A method according to claim 2, wherein the pair of oligonucleotide primers comprises of Seq ID No. 4 and Seq ID No. 5.

7. A method of claim 2, wherein in step (c) the amplified fragments are detected by ethidium bromide staining or DNA probe hybridization.

8. A method as claimed in claim 2, wherein the step of differentiating comprising the steps of:

a) Designing a set of primers according to claim 1, Seq ID No. 1, Seq ID No. 2, Seq ID No. 3, Seq ID No. 4, Seq ID No. 5, to amplify a part of the said *hup B* gène from *Mycobacterium tuberculosis* and *Mycobacterium bovis*.

b) Obtaining DNA from culture or from clinical samples.

c) Amplifying a part of the target gene encoding for histone like proteins such as *hup B* of *Mycobacterium* species using said DNA as a template in a polymerase chain reaction with a pair of oligonucleotide primers according to claim 1.

d) Analyzing and validating the size of the amplified fragments.

e) Determining the complete Sequence of the said amplified fragments.

f) Inferring from the sequence whether it is *M. tuberculosis* or *M. bovis*.

9. A method according to claim 7 wherein the DNA probe consists of sequence ID No. 6 or sequence ID No. 7 or a complement thereof tagged with a detectable label.

10. A method as claimed in claim 2 wherein the step of differentiation consists in determining the smaller size of the amplified fragment obtained from *Mycobacterium bovis*.

11. A method according to claim 4 wherein the PCR amplified fragment in *Mycobacterium bovis* was 618 bp.

12. A method according to claim 4 wherein the PCR amplified fragment in *Mycobacterium tuberculosis* was 645 bp.

13. A method according to claim 5 wherein the PCR amplified fragment in *Mycobacterium bovis* was 291 bp.

14. A method according to claim 5 wherein the PCR amplified fragment in *Mycobacterium tuberculosis* was 318 bp.

15. A method according to claim 6 wherein the PCR amplified fragment in *Mycobacterium bovis* was 89 bp.

16. A method according to claim 6 wherein the PCR amplified fragment in *Mycobacterium tuberculosis* was 116bp.

17. A method according to claim 2 wherein the PCR amplified fragment in *Mycobacterium bovis* was 27 bp smaller than that of *Mycobacterium tuberculosis* .

18. A method as claimed in 2 wherein differentiating *M. tuberculosis* and *M. bovis* comprising the steps of :

a) Amplifying a part of the target *hup B* gene from *M. tuberculosis* and *M. bovis* in a polymerase chain reaction with primers Seq. ID No.1 and Seq. ID No.2

b) Restricting the amplified fragment with *Hpa II* restriction enzyme to produce restricted fragments.

c) Separating the restricted fragments by electrophoresis on 12% polyacrylamide gel

d) Detecting the restricted fragments by staining with ethidium bromide.

19. A method according to claim 18 wherein the restricted fragment in *M. tuberculosis* was 280 bp and 150 bp.

20 A method according to claim 18 wherein the restricted fragment in M. bovis was 253 bp and 150 bp.

21 A process as in preceding claims substantially as herein described.